

PC

Interactive

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DISK BASED MAGAZINE FOR IBM & COMPATIBLES

Vol. 1 No. 3 — December 1990.

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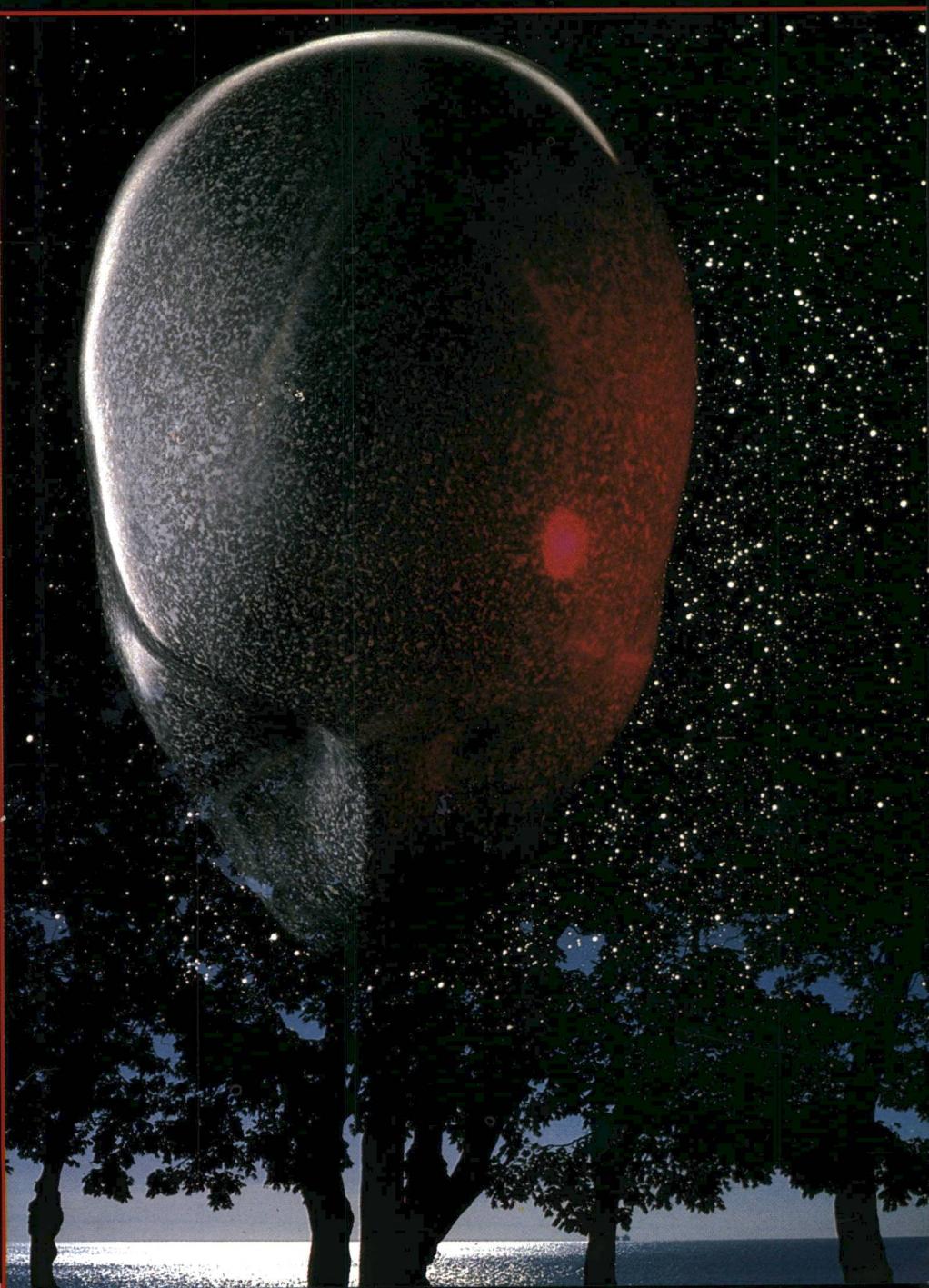
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for

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386-33 300 300Mb 18ms £3449
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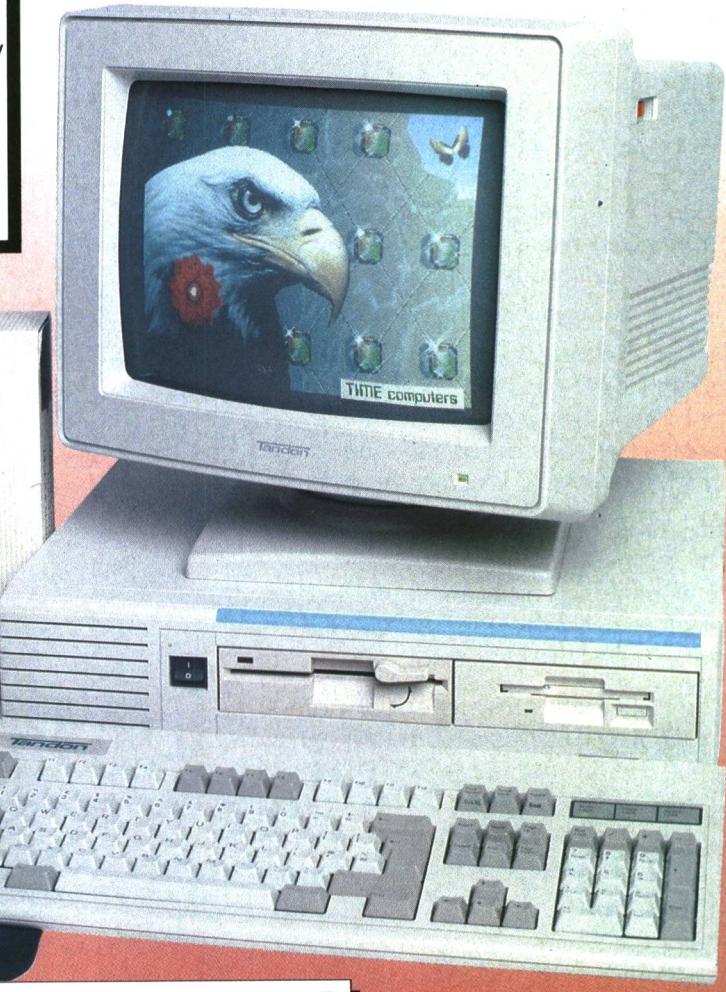
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VGA
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80386-sx
40Mb
VGA
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80486-25
100Mb
VGA
£2949

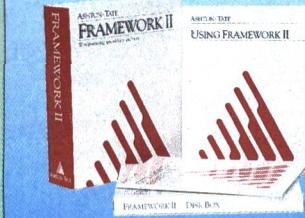
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Time-Link™

286 sl Enhanced™

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80286-12 MHz AT. Upgradable to 386sl or 486sl. Optional maths co-processor. 640K, 1Mb, 2Mb, 3Mb or 5Mb Ram. Both 1.2 Mb 5.25" & 1.44Mb 3.5" floppy drives. 40 Mb or 100Mb (19ms) autoparking hard discs. Low profile slimline design. 1 parallel & 2 serial ports. VGA mono, high-res VGA colour or Super-VGA colour. 102 keyboard. Battery backed clock/calendar. 4 expansion slots. Mouse & Paint package. Dos 3.3 PC Tools 6.0. Optional 3 year onsite warranty.

286		40Mb Models		100Mb Models	
RAM	VGA Mono	VGA Col.	VGA Mono	VGA Col.	
640K	£1049	£1249	£1349	£1549	
1Mb	£1099	£1299	£1399	£1599	
2Mb	£1249	£1449	£1549	£1749	
3Mb	£1499	£1699	£1799	£1999	
5Mb	£1699	£1899	£1999	£2199	

NEC Multisync Super-VGA colour £50 extra

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Slimline 80386sx 16 MHz. Upgradable to 486sl. 1Mb, 2Mb, 3Mb or 5Mb Ram models. Both 5.25" 1.2Mb & 3.5" 1.44Mb floppy drives. 40 Mb, 100 Mb (19ms) or 200Mb (15ms) hard discs. 2 Serial & 1 Parallel ports. 102 keyboard. VGA mono, hi-res VGA colour or Super-VGA colour. Dos 4.01. Mouse & Paint package. PC Tools 6.0. Optional 3 year onsite warranty.

386sx		40Mb Models		100Mb Models		200Mb Models	
RAM	VGA Mono	VGA Colour	VGA Mono	VGA Colour	VGA Mono	VGA Colour	
1Mb	£1399	£1599	£1699	£1899	£2099	£2299	
2Mb	£1549	£1749	£1849	£2049	£2249	£2449	
3Mb	£1699	£1899	£1999	£2199	£2399	£2599	
5Mb	£1899	£2099	£2199	£2399	£2599	£2799	

NEC Multisync Super-VGA colour £50 extra

486 sl Enhanced™

Time-Link™

80486 cpu. 25 MHz. 10.3 MIPS. 1Mb, 2Mb, 3Mb or 5Mb Ram versions. Both 5.25" 1.2Mb & 3.5" 1.44Mb floppy drives. 100 Mb (19ms) or 200Mb (15ms) hard discs. 2 Serial & 1 Parallel ports. 4 expansion slots. Enhanced keyboard. VGA mono, VGA colour or NEC Multisync Super-VGA. Dos 4.01. Mouse & Paint package. PC Tools 6.0. Optional 3 year onsite warranty.

486		100Mb Models		200Mb Models	
RAM	VGA Mono	VGA Colour	VGA Mono	VGA Colour	
1Mb	£3099	£3299	£3499	£3699	
2Mb	£3249	£3449	£3649	£3849	
3Mb	£3399	£3599	£3799	£3999	
5Mb	£3599	£3799	£3999	£4199	

NEC Multisync Super-VGA colour £50 extra

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Our 100,000 users call it a customer records system, a fleet management system, an invoicing system, a dental administration system and thousands more systems besides.

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DataEase combines real friendliness with total flexibility, to provide the enormous power you need. And all this is very quickly delivered using a step-by-step approach that removes the need for programming skills.

So it's no wonder that DataEase has won both PC User Database Challenges in public head-to-head competition, been voted 'Best database of the year 1990', by the readers of PC User magazine and regularly tops the UK database sales charts.

DataEase is available either single user or multi-user and is supplied nationally through a network of fully trained and authorised dealers, with each copy sold receiving the same unrivalled support service.

To find out more about DataEase, run the demonstration disk supplied with PC Interactive and then arrange for a full demonstration at your local dealer listed on the disk.

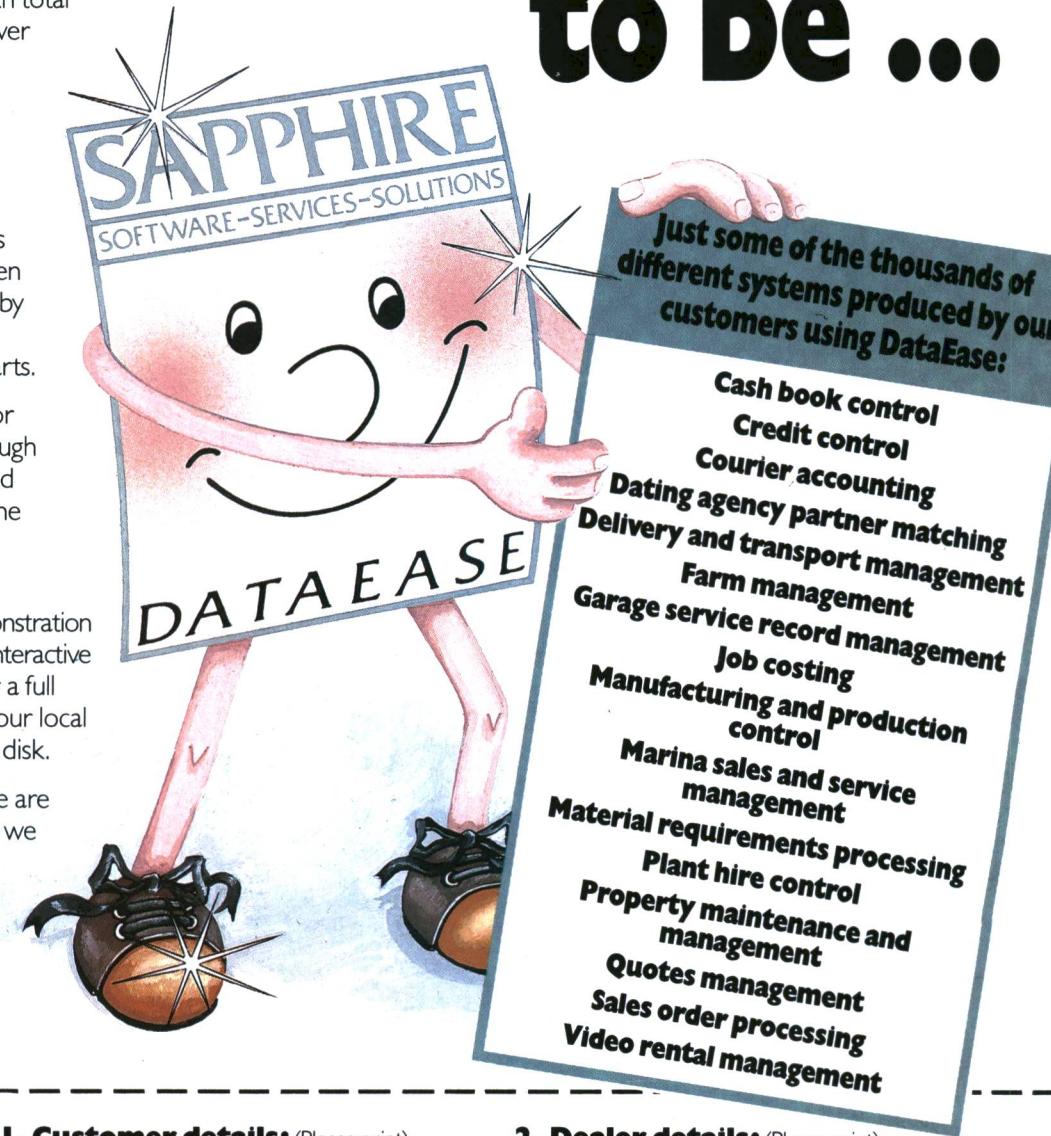
When you do so, we are sure you will see why we call DataEase — your friend at work.

See the DataEase demonstration on disk and the £4000 competition on page 20

DataEase

is what you want it

to be ...



Competition entry coupon (see page 20)

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Fax: 081-518 4150
PCI/12

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Interact No. 2

1. Customer details: (Please print)

Name:

Position:

Company:

Address:

Post code: Tel. No:

I have received a DataEase demonstration from the dealer salesperson detailed at 2 opposite.

I have purchased a copy of DataEase from the dealer salesperson detailed at 2 opposite and my completed Software User Registration Card is attached.

I would like information on DataEase.

Customer's signature:

Date:

2. Dealer details: (Please print)

Salesperson's name:

Dealership:

Address:

Post code: Tel. No:

I have provided a DataEase demonstration to the customer detailed at 1 opposite.

I have sold a copy of DataEase to the customer detailed at 1 opposite and the completed Software User Registration Card is attached.

Salesperson's signature:

Date:

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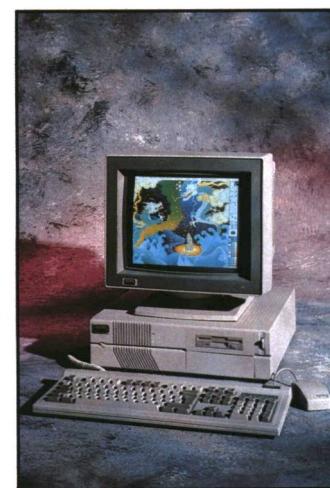
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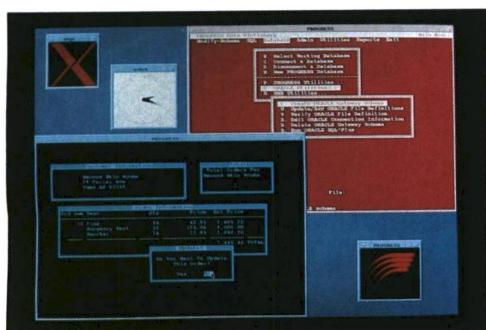
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What's on for December



The Elonex PC-386SXM/16



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FEATURES

PCI unravels wide area networks
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DataEase database
Portex

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Philips symptomatic computer systems division problems

Philips, the Dutch electronics firm, has in the last month dropped 8,900 employees, mostly in its computer systems division. In the latest announcement, the company says the computer division will be scaled back by almost a third. merger talks with another European computer manufacturer are not being considered says a company spokesman. "Philips continues to believe that it must bring its own house in order before alliances with third parties can be pursued," the Philips man, wishing to remain unnamed, said.

Most of the jobs made redundant were in manufacturing, sales and development. This is the result of Philips' decision favouring the move away from producing its own computer products to that of buying and badging third party-manufactured machines. In the UK, Philips Business Systems will lose 80 personnel, on top of the 100 made redundant earlier this year, bringing the British workforce down to 770.

Overall this year, Philips will lose 586 million, spend £790 million on restructuring and lay-off a further 40,000 people. The problem facing Philips is seen as indicative of the indigenous European computer market as a whole. Most European computer companies do very well in their home country, but have been largely unsuccessful in their bids to be competitive outside their borders. Although the market leader in the Netherlands, Philips only had a 3 per cent market share in the overall European computer market. IBM, on the other hand is a pan-European, pan-global company with operations in every European country. Its market share of the European market is 31 per cent, three times larger than the nearest European rival, Nixdorf/Siemens.

To counter the threat of the inherently non-European IBM, local computer manufacturers have been actively seeking strategic partnerships

with each other. Groupe Bull, reporting losses of 188 million on sales of 1.6 billion, recently received 150 million from the French government. The French government gave the money with the stipulation that Bull begin to look for a partner; and Bull has duly turned once again to Olivetti. Bull and Olivetti have had sporadic negotiations over the last two years but, owing to the Italian company's 41 per cent drop in profits in the first half of this year, something concrete may come of these talks.

European companies are looking further afield than the continent for help, as witnessed by September's acquisition of ICL by the Japanese company Fujitsu. Alliance with the Far East may be the short term answer to combating the American companies

in Europe; however, this begs the question what will happen when the Far Eastern companies take the place of the Americans.

In other Philips developments, the company was forced to pay out £9.25 million to a group of US shareholders. The payment follows a class action suit alleging the company engaged in a cover up of poor profit figures earlier this year in order to protect the Philips' share price.

Shareholders brought the suit, when the company announced figures completely opposite to those mentioned by the Philips chairman only three weeks before. Philips agreed to settle with the shareholders out of court, but has refused to admit any wrongdoing in its actions.

Acer announces post-merger strategy

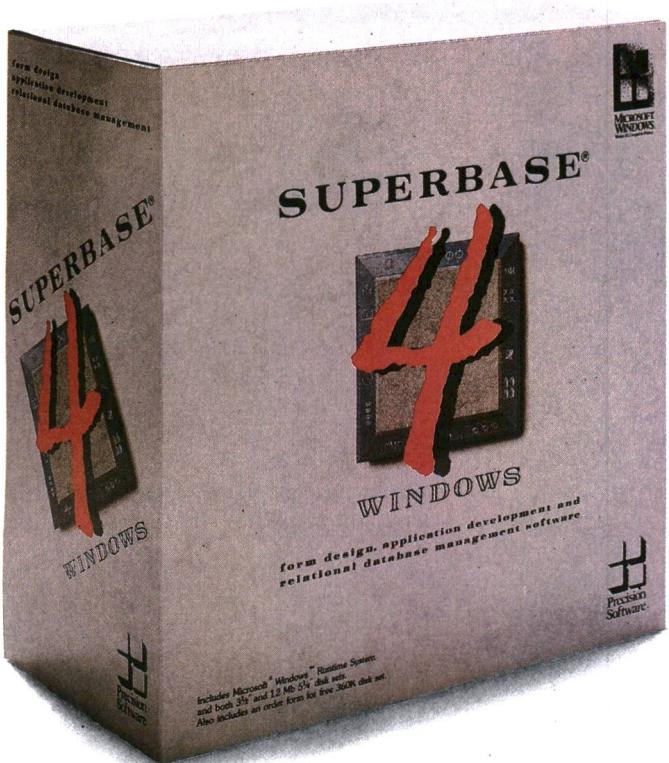
The newly appointed UK Region managing director of Acer and Altos has revealed the merged companies' new sales strategy. Colin Goble said the plan is intended to meet the aggressive growth targets set for the combined UK operation: UK sales will expand to £200 million within two years, accounting for 20 per cent of worldwide corporate revenues.

The announcement comes several weeks after Acer and Altos merged operations in September. Goble commented on the merger, saying a £1 billion worldwide computer giant had been formed. "When you combine the forces of a world leading PC manufacturer such as Acer, with the expertise of a pioneer and leader in commercial multi-user Unix systems, such as Altos, the result is a watershed in the evolution of the microcomputer industry. As a £1 billion global computer conglomerate, we now have solutions spanning from single user and networked PCs through to powerful multi-user minicomputers.

With this breadth of complementary products, Acer and Altos will be aggressive in their pursuit of a dominant slice of both the UK and worldwide markets."

The merger does not affect the separate and on-going operations of the two companies. Altos will continue to sell its multi-user product family through its existing network of distributors and VAR partners who are focussed on the vertically oriented, value added multi-user marketplace. Acer will continue to supply distributors and OEM partners with PCs, monitors and peripherals. No conflict between the two existing disparate sales channels is envisaged.

Acer signalled its intention to buy out Altos for £94 million earlier this year. September saw the completion of the deal in which Altos became an independent subsidiary of Acer. Existing brand names and channels will be maintained, and Altos will become the multi-user specialists within the Acer group.



WINDOWS 3 HAS ARRIVED

To exploit the full potential of Windows 3 requires a full suite of applications – a spreadsheet, a wordprocessor and a database.

The database for Windows 3 is Superbase 4.

The US Air Force and the Department of Transportation have already committed to over 140,000 copies of Superbase 4, and Microsoft selected it to be the only database demonstrated at the launch of Windows 3.

Why? Because Superbase 4 combines a powerful Relational Database Manager with an object orientated Form Designer and comprehensive programming language to bring increased productivity to desk top user and application developer alike.

But power and ease of use are only part of the story.

SUPERBASE® 4

THE DATABASE FOR WINDOWS 3

Superbase also capitalizes on Windows connectivity features. Dynamic Data Exchange enables Superbase 4 to pass commands and data to and from other Windows applications, even linking to SQL databases. Add to this Superbase's Dynamic Link Library support plus its ability to store images as data and you have a database that opens the door to an exciting new world of application possibilities.

NOW TRY IT. FREE

Discover the benefits of this outstanding relational database management system for yourself. To receive your free Superbase 4 Trial Pack, phone us on 081-330 7166; fax us on 081-330 2089 or simply complete and return the coupon.

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I would like to receive a Superbase 4 Trial Pack

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5.25" 1.2Mb

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MICROSOFT
WINDOWS
Version 3.0 Compatible Product

PCI/12

Precision Software Ltd acknowledges all trade marks.

NB: TO RUN THE TRIAL PACK REQUIRES A FULL COPY OF MICROSOFT WINDOWS



Precision
Software

Interact No. 9

news and Developments



WordPerfect 5.0, the world's best selling word processing software for IBM and compatible PCs, is for the first time available for Unix-based systems. WordPerfect for Unix, launched at the Business Computing show, brings near-desktop-publishing capabilities to the Unix user. The package price starts from £425 for a single workstation. For further information please circle:

Interact No. 3

Epson speaks PostScript's language

Epson and Adobe Systems have announced an agreement in which Epson has been given licensing rights to Adobe's PostScript language interpreter. Epson say they will incorporate PostScript's software into its laser printer products targeted for the desktop printer market.

"Incorporating an industry standard such as PostScript software into our products allows us to better serve markets that are oriented towards graphics and desktop publishing. The ability to offer a PostScript laser printer enhances the comprehensive line of dot matrix, laser and ink jet printers sold by Epson," Stephen Flint, printer business manager at Epson told PCI.

A spokesman at Adobe said of the agreement: "We are pleased to

become partners with an industry leader such as Epson. The Epson name is known worldwide for its high quality peripherals, and we believe the company will be successful in introducing its technology to the world of PostScript printing."

Flint said that Epson is developing high-performance controllers to maximise the productivity of its PostScript laser printers in a variety of environments. The agreement, along with providing PC users with the advantage of PostScript, also provides Macintosh users printing solutions using Epson products. The company plans to start distributing the PostScript capable laser printers in the first quarter of 1991.

Interact No. 23

Briefing

The Surrey-based personal computer manufacturer, Opus Technology Plc, has achieved an annual sales growth rate of 153 per cent, the highest of any company in the British computer industry. Opus was also market leader in two other categories, achieving the highest rates of growth both in total assets and in sales measured against fixed assets.



Microrim has announced a special trade-in offer: any customer that trades-in a copy of dBase or any other commercial database product before January 1991 will receive a copy of the latest release of R:BASE, Version 3.1 for only £125, as opposed to the retail price of £595.



Microsoft is now shipping in the UK its LAN Manager 2.0 networking software for IBM and compatible PCs. The company says the new version features significant improvements; a new pricing scheme gives users access to all the advanced features of the software regardless of the size of network. Pricing starts at £795 for five users, £795 for ten, and £4375 for unlimited users.



Hewlett-Packard has signed an agreement with the NHS Computer Procurement Centre. This will enable any of the 14 regional health authorities and individual units within each authority to purchase systems independently but with a contractual and established pricing structure already in place.



IT Marketing, the business accounting software development company, is changing its name to reflect the actual nature of its business. The company will now be known as IT Accounting.

news and Developments

Qubie kills off dinosaurs

The UK-based direct sales PC manufacturer Qubie has announced that it will not produce any more 8086 or 80286-based systems. Instead, the company will focus on machines built around 32-bit Intel processors, from 16MHz 80386sx's through to 25MHz 80486 systems. The company is the first to make such an announcement.

When asked by PCI why the company discontinued the 80286 models, Roger Harvey, a director, said, "This move simply reflects what is happening in the marketplace - the 80286 is now dinosaur technology. There is a very direct relationship between the failure of OS/2 and the death of the 80286. It is a brain damaged operating system because it was kludged around a brain damaged chip. The inability of the 80286 to switch between real and protected mode is the real reason why DOS and OS/2 programs find it virtually impossible to co-exist. The 386 chip with its memory management and virtual 86 mode solves all these problems."

Qubie's entry level system is now the SpaceStation, a small-footprint 80386sx diskless workstation, which comes complete with VGA graphics and Ethernet card for 895. The Qubie range includes three desktop personal computers running from a 16MHz 386sx to 25MHz 386 and 486 systems. Completing the line of Qubie products is a 33MHz 80386 tower system and a 486 graphics workstation.

Harvey concluded by saying: "Giving our customers the platform of the 386 chip, even on entry level systems, ensures that they can perform all the tasks they want to today, and guarantees them a growth path into the coming wave of 32-bit, 386-specific applications and operating environments. We'd be doing our clients a disservice by offering them anything less."

PC Interactive news disk
be sure to read all the late
breaking news on disk



Qubie 80486 System

Olivetti targets Amstrad

Business Computing saw the opening salvos between Olivetti and Amstrad. In a thinly disguised attack on Amstrad, Alan Rogers, Olivetti's PC products marketing manager told PCI, "Unlike some recent competitive offerings, our new PCS 386sx uses current technology. Some entry level users today are actually getting outdated technology at a not so cheap price."

Olivetti has countered the September launch of the new Generation 3 range of PCs from Amstrad with the release of its own 16MHz 386sx-based computer. Olivetti are targeting the machine at the traditional entry level users, ranging from the small to medium size business market, as well as education. "We are pitching the new PCS386sx typically at the entry level user, offering the extra performance that 386 technology can provide at an affordable price," Rogers continued.

The PCS386sx offers 1 Mbyte of RAM, with space to upgrade to 8 Mbyte RAM on the motherboard making Xenix and Unix applications possible. Three free expansion slots are available, two AT and one XT compatible. Options for hard disk include 20, 40, or 100 Mbyte, and the floppy is a 1.44 Mbyte, 3.5in drive. The PCS386sx is priced at £1499 for the standard monochrome display and 40 Mbyte drive model. The machine also comes standard with the company's new Euro-bandwagon software, PCS1992.

PCS1992 is a bundled package of software intended to make integration for European businessmen quick and easy. It includes Microsoft Works 2.0, an on-line translation and standard dictionary, and a database of European companies by country, and country-specific letter templates. For further information please circle:

Interact No. 1



FROM SHARP. A HIGH POWERED NOTEBOOK PC THAT'S THE LIGHTEST IN THE FIELD.

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Post free to: SHARP SYSTEMS, PO BOX 8, (EAST PDO-BE), FREEPOST, MANCHESTER, M10 9BB. Or phone free on: 0800 262 958. Please send details of the PC-6220 winging my way.

NAME PCI/12

POSITION

COMPANY

ADDRESS

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SHARP
FOR PEOPLE WHO MEAN BUSINESS

Reader Interaction

I have just run the magazine disks from Volume 1 number 1 of PCI. While it is a well-thought out and presented publication, I fear your programmers use DOS 3.3 or 4.0 and failed to test their programs on earlier versions. The use of @echo off in the batch files could have caused confusion to those users of (the still widely used) DOS 3.2, as it does not support this function. I hope that you bear this in mind in the future, as this problem made the installation files somewhat unclear.

But for this relatively minor bug, I found the magazine interesting and easy to use.

Daniel Leigh,
Stanmore, Middx

(From the second issue onwards we have removed the use of @echo off, so this shouldn't be a problem anymore – Ed.)

I have just bought an IBM PS/1 and hoped your PC Interactive magazine would help me to find my way around.

Also, as it stated IBM, I thought it had a 3.5in disk. Fighting my disappointment and impatience I enclose a cheque for one pound. I hate to cut magazines so I liked the idea of cards in the back, but why not use them for your survey and 3.5in disk order form? The paper you used is very good and the print excellent, especially for people like me who wear spectacles – such a refreshing change to the usual magazines. One thing please, do not go down the games road. I would like to wish you every success, it is a great magazine.

J J E Webb,
Ashford, Kent

(If you subscribe to PCI, state your preference for either 5.25in or 3.5in disks. You will receive the preferred disk with your issue – Ed.)

Thank you for your letter of 12 October with the replacement disks. As you say the new version addresses the majority of my criticisms and is a vast improvement. I have not had time to fully explore the new version,

however what I have seen will encourage me to buy the next issue.

F Weil,
Hatfield, Herts

(If you should have any problems with the PC Interactive Disks, send them back to us FREEPOST and we'll replace them – Ed.)

From the information that is in the magazine, you seem to be doing a lot of things other people have tried and failed. I wish you luck in this venture, as I know how difficult it must be being an entrepreneur and hoping people want what you are selling. Please find enclosed a subscription for the next three issues; I'm quite impressed with your first issue.

Colin Larder,
Blackamber Business Services
Newport, Gwent

We appreciate receiving letters from our readers. If you have any specific points to raise about articles in the magazine, or general items you would like us to cover, drop us a line.



BULLETIN BOARD 0274 729052

BULLETIN BOARD

The PC Interactive Bulletin Board will be on-line from the middle of October, on the number above. The Bulletin Board will offer all the latest news as PC Interactive receives it, plus all the usual items associated with a sophisticated bulletin board.

Users will be entitled to: download the newest and most exciting PD and Shareware programs; exchange programs they find useful and informative with the programs of other users; get in direct touch with the editorial and technical teams of PC Interactive; share their views with other readers of PC Interactive; try all the latest interactive demos written for the magazine's disks.

In addition to providing the above, we would like to know what you want on the PC Interactive Bulletin Board. Write to us at PC Interactive Bulletin Board, 7/11 Manor Row, Bradford, BD1 4PB. It is so easy and simple to access the PC Interactive Bulletin Board, just ring up and log on!

BULLETIN BOARD



BULLETIN BOARD 0274 729052



UKCON

COMPUTERS

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STEP 286-16 16MHz
STEP 286-20 20MHz

POA

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MONOCARD 720 x 348 POA
STATION CARD T1 1024 x 768 660.00

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STEP 386-20 20MHz
STEP 386-25 25MHz
STEP 386-33 33MHz

POA

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MDB10 VGA 1024 x 768 250.00
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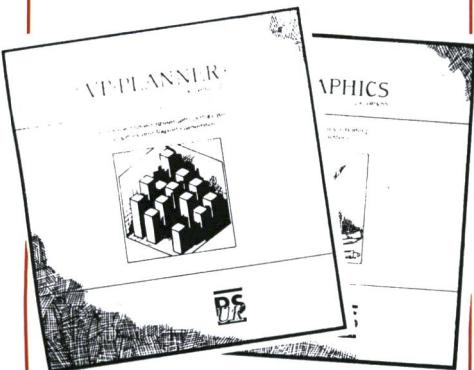
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CHRISTMAS SPECIAL OFFER

For the next month only we will be offering PC Interactive readers the opportunity to buy VP Planner Plus and VP Graphics for just £155.00 + VAT.



VP Planner 3D

There comes a point when some people no longer require a spreadsheet simply to process numbers and plot graphs: they need a program that will operate as a powerful data analysis tool. If you're looking for a spreadsheet that will satisfy all your needs, you've found it.

VP Planner 3D will allow you to create a complete report from start to finish. Enter and manipulate numeric data before converting it into a formatted text report - which can be edited from within the spreadsheet.

VP Planner 3D can manipulate true 3-dimensional worksheets, create and edit autokey macros, support all forms of enhanced memory (including virtual), operate across any network and examine any spreadsheet operation within a powerful set of auditing tools. You'll soon see why it's the businessman's choice.

RRP £295.00 + VAT

VP Planner Plus

Compatible with Lotus 1-2-3 release 1A and 2, worksheets, templates and macros, VP Planner Plus offers functions and features not found in other spreadsheet programs.

Chief amongst these is the Multidimensional Database, a method of storing worksheet information in a database format.

There are over 40 commands covering every area of worksheet use, including improved handling of database files, sorting by up to four key fields, handling foreign currencies, as well as sideways printing for large spreadsheets.

RRP £149.95 + VAT

VP Graphics

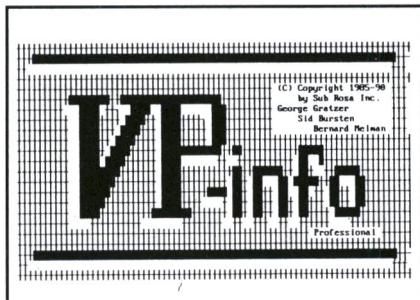
If you're looking for presentation quality graphics, here's your answer! VP Graphics is an object based drawing package, that gives you the ultimate flexibility in graphics design and implementation.

Support is provided for all standard output devices, including laser printers, plotters and colour printers. You can even save the graphics in a format that you can use with your favourite desktop publishing package.

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VP Info's speed and power put it at the top of the class. Its relational file handling capabilities allow you to examine up to ten databases at the same time, with each database holding up to 2 billion records.

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NewWord 2

A classic piece of industry standard professional software that has stood the test of time and has gained recognition as one of the best word processors on the market. Combining the famous Wordstar keystroke compatibility with built in conditional mail merge, NewWord 2 provides an answer for even the most demanding of business word processing users.

If you are already familiar with Wordstar then you will be up and running immediately, and if you aren't then the helpful on-screen menus, prompts and help facilities will ensure that you are on your way in the shortest possible time.

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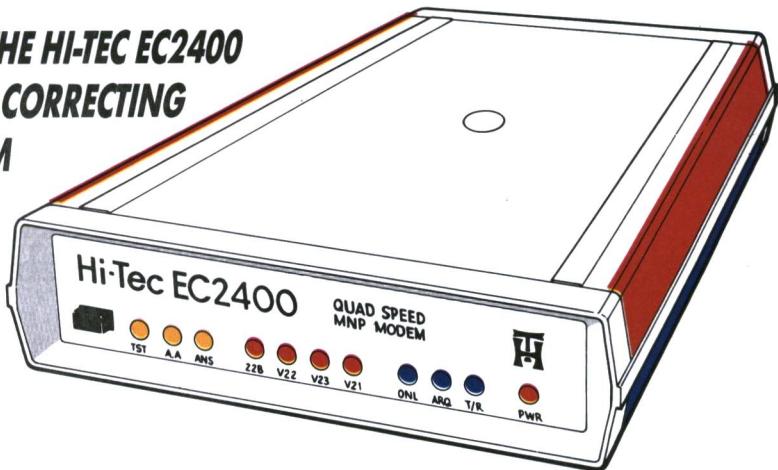
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Feature Focus

Business Computing 1990

Business Computing 1990, the new solutions-led exhibition was held at Earl's Court during 25-28th September this year, Caroline Lynch reports. Although many considered it to be verging on disaster regarding attendance, the standard of the exhibits, was on the whole very good. Low as it was, attendance was not as disappointing as many exhibitors had expected – perhaps the economic recession has not hit the computer industry as hard as feared.

Attendance notwithstanding, the exhibition was still a relative success, both for the manufacturer and end user. There were several new product launches, and introductions to the UK market at the show – including the launch of our very own PC Interactive. We found ourselves overwhelmed by the interest in the new concept of PC Interactive and were met with both ecstatic response and of course, constructive criticism. We were glad to see that people were very willing to support us by parting with their money and buying the magazine. Thanks to all.

The exhibition seemed well organised and an innovative idea of symbol coding each exhibitor was introduced to help visitors to Business Computing '90. The system divided all the exhibitors into nine reference groups each represented by an application symbol – for instance Application Development or CAD & Graphics. By looking through the show guide visitors could decide exactly which stands were relevant to the application they wanted. For busy decision makers, who do not have the time to stroll around exhibitions at their ease, it seemed an ideal solution to the endless wandering round virtually identical aisles, in search of someone who might be able to solve their problems for them – or tell them the way out.

BUSINESS SOLUTIONS CENTRE

Another useful idea which Business Computing '90 introduced was that of the Business Solutions Centre, where the public could access free and impartial advice or free seminars. The seminars covered a wide range of topics including networking, interactive media and animation. All

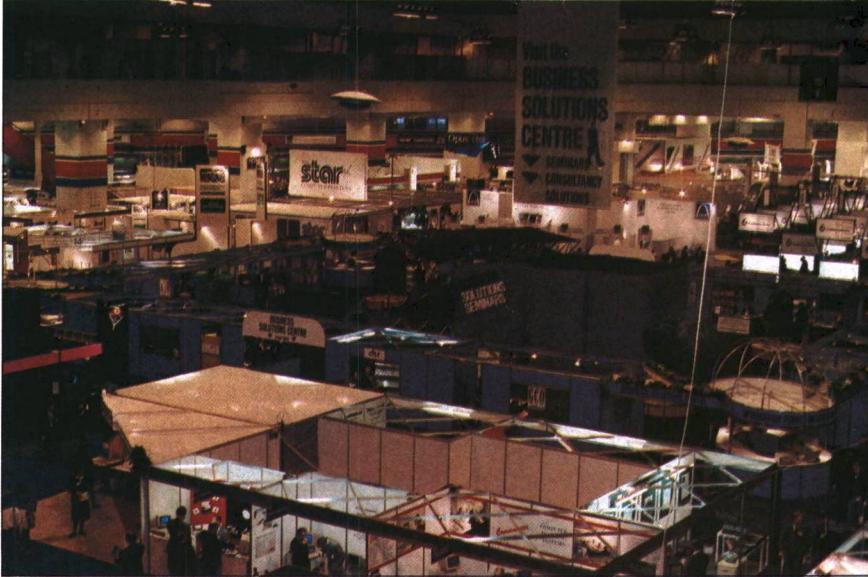
levels of knowledge were catered for, with seminars for both experienced and less experienced users. Those at hand to help included the Association of Independent Computer Specialists, offering the benefit of a minimum of five years experience in the computer industry, and the British Computer Society, co-sponsors of the exhibition. The central concept of the whole exhibition was to provide solutions to any business problems which faced the visitors.

A major exhibitor feature was centred around Microsoft's new Windows 3.0 development. The Windows 3.0 Solutions area was staged by Microsoft and 26 other companies, including IBM, Hewlett-Packard and Informix. IBM concentrated on their Current 1.11, Hewlett-Packard on New Wave 3.0 and Informix had their latest Wingz spreadsheet running under Windows 3.0 on the stand.

HARDWARE

Hardware was by no means left out in the cold with many new

Business Computing 90 - with PCIs' stand in lower left corner.



developments being uncovered at the exhibition.

Amstrad had its "Third Generation" of desktop machines on show for the first time. In addition to this they also showed an impressive array of wordprocessors, personal computers, portables, fax machines, printers, monitors and business software.

Arche Technology UK launched its lightweight Messenger 386sx. In the Arche showcase there were also the Arche Parade, the Arche Rival range and the Profile range, which together offered a good choice of hardware at wide-ranging prices.

IBM, as usual, had an interest-packed stand and gave the first UK demonstration of the PS/1. Their theme for Business Computing '90 was "Small Business Solutions", focussing on Entry Systems Product users.

Magnifeye gave its first showing of their AT-compatible video digitiser, Screen Machine. It allows real-time display of a video source, in true colour on a VGA screen. We reviewed Screen Machine in our first issue so if you want to find out more, have another look at our October issue.

Tulip had its full range of PCs on

Cont'd on page 16

Feature Focus

Cont'd from page 15

display and gave the first UK showing of their 16 MHz ws 386sx LAN workstation.

If hardware was your reason for attending Business Computing '90 there was certainly no shortage of new products to choose from.

PERIPHERALS

Most product launches came from the printers and fax equipment area however, with Hewlett-Packard, Star Micronics and Panasonic all introducing new items to the market.

Hewlett-Packard showed their new printers for the first time, the HP LaserJet IID and the high performance but lower priced HP DeskJet 500.

Star Micronics, offered no less than three new models to add to its already award-winning Business Series, including the LC-200 which features both colour and mono ribbons as



Tulip's stand at Business Computing 90

standard. Panasonic showed their new KX-P1123 24 pin dot matrix printer and the KX-P4455 post script laser printer plus the recently-launched KX-P1695 and KX-P1624 wide carriage 9-pin and 24-pin printers. If Panasonic are your personal weakness keep your eyes open in the new year as PC Interactive in conjunction with Panasonic will be offering a laser printer worth £1395 as first prize in the next PCI competition.

Cont'd on page 17

Windows not taxing for organisers

Business Computing provided the ideal stop for the Microsoft Windows bandwagon, as more than 24 companies inhabited a recently created New Town, the Windows village. Civil amenities in the village included a theatre, a cafe, carpeted streets and a host of concerned Samaritans willing to lead the visitor into the safe warmth of their Windows applications – but, strangely, no bank.

Microsoft marketing director and village estate agent Bryan Nelson showed PCI around the New Town. "The business community is recognising the commercial benefits of migrating to graphical environments like Windows," he said, obviously unconcerned with the incongruity in what he was saying

and the apparent lack of village financial institution.

"Business users see that Windows applications increase productivity and get new users up to speed quickly. Microsoft's demonstrations at the Business Computing Show focus on the integrated capabilities of Microsoft Windows applications, and are targeted at businesses who are seriously committed to IT and require a total office solution." That said, Nelson went off to check on the fortunes of his village tenants. The reason for the absence of banks suddenly became clear: this was a feudal town; those living in it had their wages paid, held and controlled by Lord Microsoft – a lord that also dictated to those living outside the Village.

Tulip blooms

The first UK showing of the Tulip ws 386sx workstation since its launch in June of this year was given at the Business Computing show. The ws 386sx is a workstation designed for use on any Ethernet based network, including the company's own networking solution, Tulip isolan.

"The ws 386sx is an aggressive push by Tulip to gain a greater share of the burgeoning networking market. It makes a valuable contribution to Tulip's complete networking strategy, and complements the highly successful Tulip ws 286 workstation. The new machine offers the user a comprehensive package of features providing power, functionality and security for an outstanding price," Steve McCall, Tulip UK's managing director told PCI.

The workstation is based on the Intel 80386SX processor running at 16MHz. It is equipped with a 16-bit network controller card, enabling users to boot on any Ethernet network. The ws 386sx has 2 Mbyte of memory as standard, expandable to 4 Mbyte on the motherboard. This allows demanding applications to be run directly from the workstation, without the need to access the fileserver. The workstation is available in either hard disk equipped or diskless models.

Interact No. 6

Feature Focus

Cont'd from page 16

It was clear from the show that developments in the software world were even more exciting. For instance, WordPerfect gave the first showing of WordPerfect Office version 3.0 networking utilities, the 175 LetterPerfect laptop processor and version 1.1 of DrawPerfect, in theatrical demonstrations on the stand.

Fox similarly gave theatre presentations of FoxPro adding some variety to the occasionally mundane world of computing.

From Symantec we saw an essential product for any user in today's world of computing, the recently launched Norton AntiVirus for the PC.

Last but not least, to use a well-worn cliche, we can mention Computer Associates' CA-CRICKET graphics package displaying its new enhancements.

Even though Business Computing this year broke no attendance records

Cont'd on page 21

To help us better serve your interests, please fill in this survey and return it to PC Interactive Survey, FREEPOST 7-11 Manor Row, Bradford BD1 4BR.

Name: _____

Age: _____

Company/Organisation: _____

Position in Company: _____

Address: _____

Number of employees: Under 10 11 to 100 101 to 500 501 and over

How many computers does your company own? Under 10 11 to 50 51 to 100 101 to 200 over 200

What area of business is your company in? Manufacturing Finance Government Transport Education

Wholesale/Retail Computer and related Construction Other (please specify) _____

Are you responsible for deciding or influencing which computer and related products your company purchases? Yes No

Do computer magazines influence or have they influenced your decision as to which product or services to buy? Yes No

Do you feel magazine advertising is a valuable aid for you to find out which products are available? Yes No

Which of the following do you feel help you the most when deciding which software products to buy?

Magazine reviews Demonstration disks

When you purchase magazines do you prefer to buy magazines with cover disks or without cover disks?

To best suit your needs, in which format should the cover disks be in? 5.25 in 3.5 in

Please tell us what kind of features, new products and news you would like to see in PC Interactive.

Thank you for taking time to fill in this survey.

Hitachi eyes up new monitor

The 14MVX from Hitachi has been designed to alleviate many of the problems associated with VDU use, the company says. "As today's users face longer and longer hours in front of a screen, so it becomes imperative to ensure that the screen technology provides clear, sharp images," Bob Pierce of Hitachi told PCI.

He continued to say, "The 14MVX delivers this with an ultra high resolution of 1024 X 768 pixels and, in line with industry graphics standards, is capable of running refresh rates of up to 100Hz. With maximum available screen area made possible by removing the usual screen border, the 14MVX combines a superior level of convergence and focus to provide a picture that is flicker free, more accurate and easier to view."

The 14MVX is a multifrequency, 14in colour monitor which is compatible

with all IBM PC standards including PS/2. The 14MVX can also be used with the Macintosh II series, and can support all major graphics standards, namely, MCGA, VGA, Super VGA and 8514A. An anti-glare screen and lower levels of magnetic and electrostatic fields eliminates many VDU-related problems, such as eyestrain and headaches.

Pierce concluded by saying, "Poor monitor quality is responsible for many of the problems associated with the use of computers. With the 14MVX, Hitachi has produced a monitor which will literally be a pleasure to use and more importantly, one which utilises technology to perform today's exacting applications." The monitor is available at a retail price of £525. For further information please circle:

Interact No. 7

Reader Survey

VOL 1 NO 3

8<

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How many computers does your company own? Under 10 11 to 50 51 to 100 101 to 200 over 200

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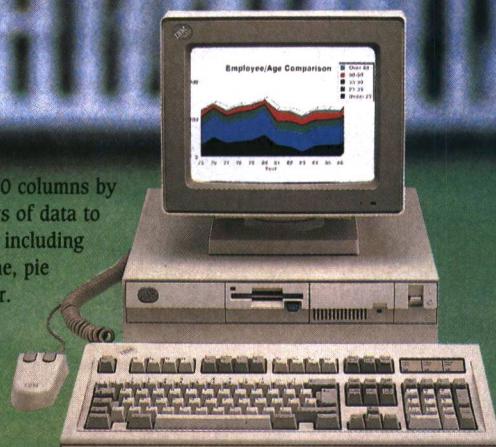


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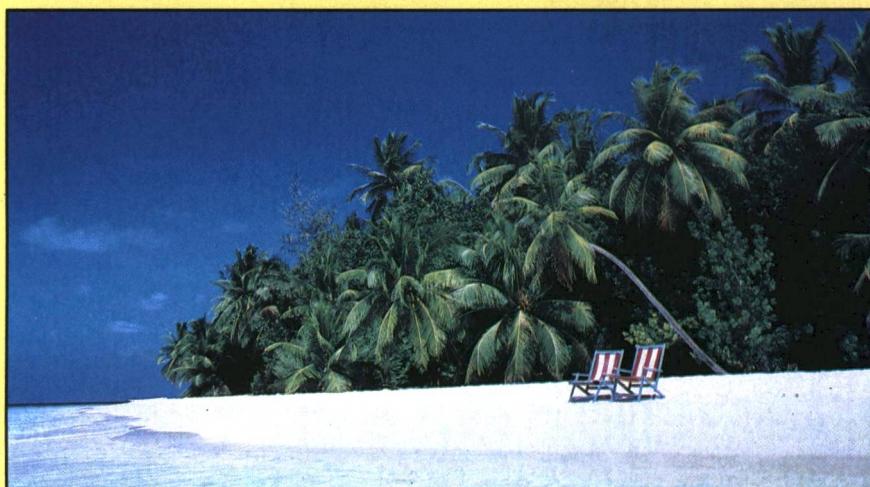
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PC Interactive Competition offers £4000 in prizes



The holiday of a lifetime could be yours

You can improve your business efficiency and stand to win a £2,000 holiday of your choice in our exclusive competition! Or you could win valuable DataEase training and consultancy packages worth up to £500 each. PC Interactive has joined with Sapphire DataEase, supplier of the UK's top selling database software DataEase, to offer this exciting competition.

How to enter

No purchase is required to enter the competition. Just complete the "Customer details" section of the coupon in the DataEase advertisement on page 4 with your name, address and telephone number and return the whole coupon to Sapphire DataEase Limited.

But a look at the DataEase demonstration on the disks contained with this issue may well convince you to seek further information on DataEase - the UK's best selling PC database software. And that couldn't be easier!

List of Dealers

On the demonstration disk you will find a list of DataEase dealers that can be accessed by region. Each

one of these dealers has been selected to offer you the best possible service.

When you visit one of the selected dealers they will be very happy to discuss your particular business system needs with you. They will demonstrate the full benefits of DataEase to you that will allow you to build the business system you want, in the way you want.

The first prize is a holiday of your choice to the value of £2,000. Sapphire will pay the cost of a holiday that you select and book, up to the value of £2,000, provided it is taken during 1991. Alternatively, you can take the prize as £2,000 worth of DataEase training and consultancy.

The four runner-up prizes are £500 worth of DataEase training and consultancy provided by Sapphire Training and Consultancy Ltd., a specialist company offering a wide range of PC training in many leading software products, backed up by consultancy and advice.

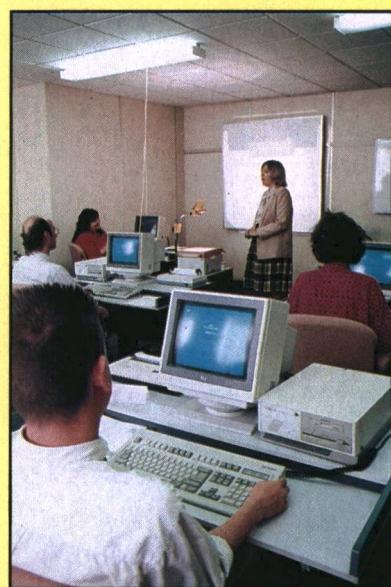
Winners may take the cash equivalent of their prize if they so wish. Cash equivalents may be subject to income tax or corporation tax payable by the winner.

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DataEase is the UK's number one selling database product, with over 100,000 users. It is used by a wide range of companies, from the Times Top 100, medium sized organisations to one person, entrepreneurial operations. DataEase has attained its popularity due to its power combined with real ease of use. Many businesses successfully use DataEase to produce applications that match the way they work. DataEase leads

the user step by step through application building procedures and does not require in-depth programming skills.

To find out more about DataEase, look at the demonstration on the PC Interactive disk and then arrange with your local dealer to see how DataEase can help your business.



A Sapphire training course

Rules of the PC Interactive Sapphire competition

1. No purchase necessary to enter the competition.
2. Open to all UK residents over the age of 18 excluding Sapphire staff and family, Sapphire product stockists and family, PC Interactive staff and family.
3. Instructions form part of the rules and entrants are deemed to have accepted the rules.
4. Closing date for entries is 31st December 1990.
5. No responsibility will be accepted for entries lost, damaged or delayed.
6. Winners will be chosen by prize draw conducted by the Editor of PC Interactive on January 14th, 1991 and notified by post.
7. Entries are limited to one per person and only one prize per entry.
8. The judges' decision is final and no correspondence will be entered into.

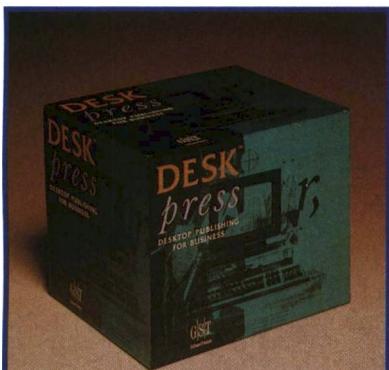


Runner-up prize of consultancy

Feature Focus

Cont'd from page 17

it must still be said to have been a success. With such excellent products on view, such as PC Interactive, it could hardly be anything but! Who knows, next year if the economic recession has become nothing more than a dim and distant memory maybe Business Computing 1991 will be a bigger success.



Pressing matters

GST Software Products introduced their low cost desktop publishing package to Business Computing visitors. "Deskpress will appeal to PC users who want to bring desktop publishing to everyday business use," PCI was told by Joanna King, GST's marketing manager.

"The product is targeted at people who want more features than are typically offered by budget DTP software and at those who have resisted buying a high-end DTP product because of high prices and complexity of use. Deskpress provides the ideal combination of powerful professional DTP features, ease of use and value for money," she continued.

The package, priced at £279 ex. VAT, can incorporate information from most business software such as spreadsheets and databases and can put that information into professionally presented reports and documents. Deskpress comes complete with several font families along with a graphics library, and ready designed style sheets are included.

Comdex falls prey to travel sickness

"Gonzo team has come from Italy for exhibition. Where is?" A fitting epitaph, seen written on the exhibition notices board, for the inaugural Comdex/Europe which was held in Paris in the first week of October.

The exhibition, organised by the same group that holds the infinitely better Comdex exhibitions in the United States, attracted about 100 companies, mostly software publishers. A few international companies, such as Acer and IBM, tried – but failed – to add some interest to an ultimately desultory affair.

PCI should have stayed at home and just read the press release; it sounds infinitely more exciting than the reality. "During the Journees de la

Distribution, the principal manufacturers will be making a non-stop presentation of their new products to their customers. This fast moving presentation will take place at the centre of the show in the Distribution Area." The Distribution Area was a curtained-off corner of the exhibition hall that had three rather bored "customers" suffering a presentation from that leading manufacturer, Floppylog.

There was a very large contingent of American companies at the show, located in the US Pavilion. The companies were located in the US Pavilion; most of the people manning the American stands were located in the US Pavilion hospitality suite getting blind drunk to forget about the show. And so shall we.

European software sales outstrip US market

The Software Publishers Association was at Comdex/Europe to check up on the validity of their recent findings that North American software firms sales in Europe increased 48 per cent during the 2nd quarter of 1990.

Thirty-two US based software firms, representing 18 software categories (word processors, graphics, spreadsheets, etc) in six different formats (Macintosh, MS-DOS et al.) took part in the SPA sponsored survey. The 32 firms reported aggregate European software sales of £2194 million (measured at wholesale in US dollars) for the 2nd quarter, a 48 per cent growth rate over a year ago.

"Europe continues to surpass the US market in sales growth, despite the fact that the US market experienced its strongest quarter-to-quarter comparison since 1988," said SPA's research director, Ann Stephans. Second quarter sales throughout Europe increased 48 per cent. This

compares with a 31 per cent growth rate in the United States and Canada. Sales of PC/MS-DOS software was the most predominate in all the European regions, ranging from 81 per cent of total sales in Scandinavia to 97 per cent of total sales in Spain and Portugal. The Macintosh market is strongest in France, Scandinavia and the UK.

In total volume, Germany/Austria is the largest European market for the US based firms, at £53.3 million, followed by the UK and Ireland at £49.2 million and France at £41.4 million. The Software Publishers Association qualifies their findings by saying that the figures should not be considered estimates of market size, since the sample only includes the sales of the major American software firms in each market. Generally, in the European software markets, the sales of US PC software products are approximately 70 per cent of the total market in each country.

TURBO GETS A NEW NAME

PowerBASIC

Turbo Basic just got the boost it needed to make it the fastest, highest-performance Basic compiler yet... PowerBASIC.

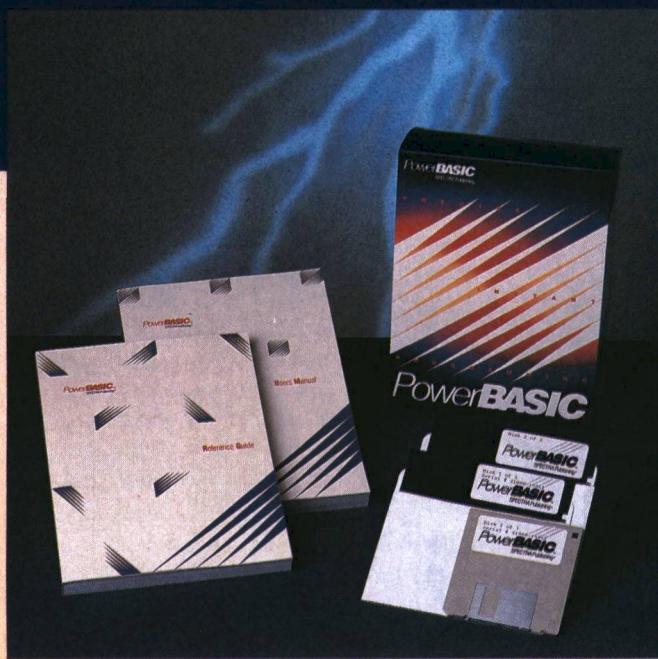
Despite its world-beating performance, PowerBASIC is also easy to use, giving you an unrivalled opportunity to generate clean, tight ultra-fast code.

Don't run away with the idea that PowerBASIC is a mere update on Borland's Turbo. PowerBASIC is a totally new and greatly improved compiler in its own right.

Developed by Robert Zale, the original author of Turbo, it has 64 new functions, is fully upward compatible with Turbo Basic and almost 100% compatible with GW Basic.

It strips your EXE from all superfluous code for extra small programs. You can even include assembler anywhere in your program. And because it lets you use all available memory, it sets you free from the usual 64k string space barrier.

Other startling new features include an integrated debugging environment that will help you trace the most elusive bugs in no time at all. Single-step code, set breakpoints, watch variables, evaluate or modify expressions and monitor the "audit trail" (call-stack) of your



programs execution.

New BCD maths eliminates rounding errors and complete and instant movement between editor and other tools without losing sight of your code. Powerful context-sensitive help system with key words and syntax definitions saves "reading the book."

Array support has been improved with new commands for sorting, scanning, adding and removing array elements. There are 10 meta-statements to specify the size of both serial communications buffers and set the size of string segments.

PowerBASIC 2.1 supports the writing of programs that allow multi-user access while protecting data integrity through the extended use of LOCK, UNLOCK and OPEN statements that can address entire files, parts of files or individual records. The multi-user features will work on virtually all networks.

PowerBASIC is faster than Turbo Basic and even more powerful. The new commands, especially those concerned with string handling, integrated debugging, network support and new application-oriented functions make PowerBASIC set to put personal computing's first language back on top.

USE IT AND YOU'LL SEE WHY

PowerBASIC 2.1 only £119.95 plus VAT (dual media). Turbo Basic users can upgrade for £69.95 plus VAT (from Megatech only and state media and return original floppies).

Ask your dealer or usual distributor for PowerBASIC 2.1. Want it tomorrow..? We accept (faxed) purchase orders from quoted plc's, education, local and central government.

Otherwise send us a cheque or phone/fax us your Access or VISA number, name, address and expiry. Orders received by 2pm are shipped overnight so you can use it tomorrow.

Total amount is £145 (£88 for upgrades). This includes VAT, handling and OVERNIGHT delivery. A VAT invoice will be included in the package.

Interact No. 14

Show Round-Up

Informix at the Window

Informix Software, the European market leader in Unix relational database management systems, demonstrated its commitment to Microsoft's Windows 3.0 environment at Business Computing.

The company was exhibiting in the Windows Village section of the computer show, underlining its new found friendship with Windows. Informix released Wingz for Windows, which, the company says, is the first true graphical spreadsheet to fully exploit the Windows environment. A spokesman on the Informix stand said Wingz for Windows combined the

versatility of the graphical user interface, the speed of a powerful spreadsheet and the flexibility of a built-in programming language, HyperScript.

Another Windows-oriented product released by Informix was SmartWare II for Windows. It is an integrated software package incorporating database management, word processing, spreadsheet, graphics and communications capabilities in one package. For further information please circle:

Interact No. 24

Samsung tells it as it is

In a refreshing aside, Samsung's national sales manager Peter Cleverly broke ranks with the massed computer manufacturer's publicity machines at Business Computing 90. "Computers," he said, "are not particularly interesting things - in fact they are extremely boring." Well done that man.

In lesser Samsung news, the company released the last in its 1990 range of fax machines. The SF1000 fax transceiver, priced at £395, is the company's lowest end offering. It is group 2 and 3 compatible, has nine memory, telephone and voice request buttons, and automatic fax/telephone selection.

Elonex offers

Elonex, the direct personal computer supplier, introduced their new 386SXM/16 at the Business Computing show. The prices for the 386SXM/16 complete configuration start at £925, which the company says is likely to make it the lowest cost 32-bit performer available in the UK.

The machine comes standard with 1 Mbyte of RAM, a 40 Mbyte hard disk, 1.44 Mbyte 3.5in disk drive, monochrome VGA monitor, MS-DOS 4.01 and Windows 3.0. Price upgrades will entitle users to colour display, increased memory and coprocessor options.

The 386SXM516 uses the 16 MHz 80386SX processor from Intel, and

allows for memory expansion of up to 8 Mbyte of RAM directly on the system board. Three free AT-type slots for system expansion with one parallel port and two serial ports are also provided as standard.

Elonex also used Business Computing to unveil the company's first 80486-based PC for the desktop, the PC-486B/25 Compact. The Compact is that, with dimensions of 16in X 15.5in X 6in, but it can accommodate up to four half-height drives and provides four free 16-bit slots for system expansion. The Compact is to be released with a price of around £2500.

Interact No. 26

HP's double launch

Hewlett-Packard used Business Computing to release two new printers, the LaserJet IID and the DeskJet 500. The LaserJet IID is the company's second printer to use the new HP PCL 5 printer language and HP resolution Enhancement technology.

The eight-page/min LaserJet IID printer is compatible with the LaserJet III and IID printers, and it replaces the latter. It offers the features standard on the LaserJet IID, and is designed for high-volume users and shared printing environments. At 20,000 pages/month, it has the highest duty cycle of HP's desktop laser printers.

The DeskJet 500 replaces the DeskJet Plus and DeskJet printers. The new printer improves upon the performance of its predecessors, the company says, by offering better font quality through improved kerning and compatibility with Microsoft Windows 3.0. The kerning improvements affect the spacing of the DeskJet 500 printer's proportionally spaced typeface, giving the printer's output a more professional look. With kerning, font spacing produced by a DeskJet printer matches that of LaserJet printers.

The DeskJet 500 costs £599 and the LaserJet IID is priced at £2999, and both are available from all Hewlett-Packard dealers. For further information please circle:

Interact No. 25

Be sure to read all the other show news on the PCI news Disks

Under the Spotlight

Application:

Package:

Developer:

UK Distributor:

Tel:

Comms package

DynaComm

Future Soft Engineering

Radio-Suisse UK

0272 255465

Dynacomm is a new communications suite designed to run under Microsoft Windows. The package we were sent to review consisted of six 3.5in disks, three manuals, user guide – which outlines how to get the system up and running, and the NewWave. This manual explains the differences between the NewWave and Windows version of the product. The largest manual is the script reference guide which contains an introduction to, and detailed descriptions of, all the script commands.

Being a Windows product the first thing you notice about Dynacomm is the front end, which, if you like the way Windows presents things, provides a pleasant and intuitive feel to a potentially intimidating program. One problem with Windows programs, however, is their size. When installed with help files the program gobbles approximately 2 Mbyte of hard disk space.

The list of features provided by Dynacomm is impressive: built in editor, network support, 32 user-definable function keys, XModem, YModem, YTerm, Kermit and CompuServe B+

transfer protocols, emulation support for a wide range of terminals, transmission speeds up to 19200 bps and the program's most powerful addition its script commands.

The script language has over 275 commands – providing almost a full programming language. These commands allow a written script to alter almost any aspect of DynaComm to suit its need. The script language includes program flow control commands (which control sequence and timing of command execution within and between scripts), environment setting commands (which allow alteration of DynaComm's program environment, this could range from setting cursor blink-rate to setting the emulation type of the terminal), communication mode setting commands (which allow complete control over modems), User Interface commands (which allow the script to present unique front ends, using such features as custom menus, and buttons to click on) and DDE commands (which allow DynaComm to talk to other Windows products which support DDE). The language also contains functions which can

Cont'd on page 25

Application:

Package:

Developer:

UK Distributor:

Tel:

HP/BASIC coupler

HT Basic

TransEra Corp

Workstation Source

0628 75252

HT Basic is a new implementation of the BASIC language. New, that is, to IBM PCs. It is designed to turn your PC into a Hewlett Packard 9000 series 200/300 BASIC workstation. It comes in two ring-bound manuals, a reference guide and user guide and two 1.2MB disks. The first thing to notice about HT Basic is that it requires a 386. One would assume from this that the language would be state of the art, super fast, and super friendly.

This, however, is not the case. The first thing you notice about HT Basic is its editor. The system used to edit or enter programs can only be described as outdated. Line numbers are required, and all editing is done with reference to them. Users of more modern BASICs used to scrolling up and down the listing, and making changes will not be impressed. This environment may be an exact match to the HP machines but is perhaps taking compatibility a little too far.

With the program requiring a 386 to run one would expect the program to run at a blistering pace, but the few simple benchmarks I tried produced slow programs considering the power of the computer. To be fair, the program is designed to

be run with a 387 maths-coprocessor, and I did not have one, so perhaps with this processor speeds will be more impressive.

Having said all that, the program is obviously not designed as a rival to Microsoft BASIC or similar products, it is for people who have used the HP machines and presumably want to port their code to the PC. The program is well suited to this task, assuming its compatibility claims, which we have no way of testing, are true.

One annoying part of the system is the dreaded dongle. The software piracy problem will never go away but as increasing numbers of packages use this type of protection, changing dongles (and in our office actually finding dongles) becomes an onerous task. Is this really a good way to copy-protect software which people will presumably be using to earn a living?

In conclusion, if you have HP machines and would like to use PCs instead then this is obviously the package you have been waiting for. However, if your need is only to update from the terrible GW-BASIC provided with your computer there are much more suitable products available.

Under the Spotlight

Cont'd from page 24

manipulate strings, do floating point maths and return information about the system. DynaComm will also allow up to 192 variables.

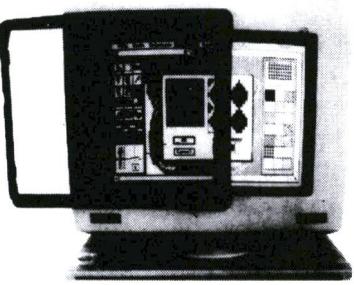
Once a script is written it must be compiled before it can be executed. This compilation process does not produce a standalone program but rather a file which DynaComm is then able to run. The most apparent thing about the scripts when they are run is speed, or rather lack of it. One example script, The Director, a front end for DynaComm, takes an age just to open and render its main window, and that was on a cached 386, I would hate to try the program on a lower-spec machine.

DynaComm is undoubtedly a very powerful communications package, it is incredibly flexible and nicely presented; however, if you are to use the program only to access the occasional bulletin board the program is total overkill, there are many more suitable packages on the market. Where DynaComm would be ideal is in setting up a Bulletin Board or perhaps using it with an existing network where Windows already proliferated.

What would you like to see reviewed?
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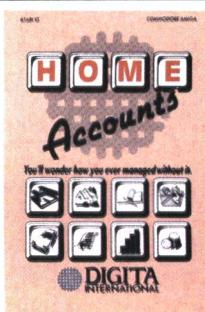
Interact No. 15

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Hardware Highlight

Dotting the I's

In the olden days, way back when, the mind-of-its-own photocopier was the target of enraged office abuse. Much to its relief, it has now been superseded by the office printer. Just like the photocopier, the temperamental nature of the printer is often due to misuse, overuse, or asking it to do jobs for which it is not capable. To help users get the most out of their printer, PC Interactive looks at the different types available and the specific functions they are designed to perform.

The most popular, in terms of total printer sales, is the dot matrix printer. The dot matrix and daisywheel printers are classified as impact printers – the printout is created by the print head striking the paper directly. Because this type of printer involves physical contact with the paper, it is by far the noisiest group of printers. The dot matrix printing process revolves around the actual printing element, the print head.

The print head consists of a matrix of small pins which form each individual character's shape, the pins are then forced against an inked ribbon which impacts with the paper to reproduce the dot pin pattern, forming the character. A look-up table is held in the printer's permanent memory which tells the print head how to arrange the pins to form a specific character. The process of printing on a dot matrix printer is cyclical, an instruction to print a character comes from the computer to the look-up table, the look-up table configures the print head and the print head prints the character and lets the computer know it is ready for the next character, and so on.

There are several factors to think about when buying a dot matrix. Most come in either 80 (A4-sized) columns or 136 (A3) columns. If the printer is to be used for spreadsheet and database listing, then the 136 column option is best selected, leaving the 80 column printer for letters and document printing. There are two types of paper

feed for dot matrix printers, sheet feed and tractor feed. Although 250-page sheet feeders are readily available, for long print jobs a tractor feed printer is best. Dot matrix printers are widely available in either 9 or 24-pin models, and some 18 and 48-pins are coming on to the market. The simple rule to follow with print heads is the more pins, the higher the print quality. As with anything, you have to pay for the increased quality.

Consumables

Dot matrix printers are best-suited for long print jobs such as spreadsheet printing and database listings, for internal office memos and other printings, and for hardcopy printouts of files and data. Dot matrix printers also have the lowest priced consumables and operating costs. For specialised printing needs and outside distribution of leaflets, flyers and letters, one of the following printers are more suited.

One of the fastest growing members of the printer market is the laser printer. In a laser printer, light from a semiconductor laser passes onto a octagon-shaped rotating scanning mirror. The light reflected from the mirror hits a photosensitive drum, creating a very localised, electrostatically charged region. Character information from the PC is decoded into a series of microscopic electrostatic dots which appears on the drum as the light sweeps across it. The drum then comes in contact with the toner powder, which only sticks to the charged areas on the drum. The powder is transferred onto the paper as it rolls over the drum. The paper then passes into a fusing mechanism consisting of heated rollers which presses and melts the powder into the paper.

This process is a fairly lengthy and involved one; laser printers therefore can only print up to 8 or 10 pages/min. This makes them unsuitable for dashing off a quick printout of a file. The laser printer's true area of speciality is graphics and desktop publishing printing.

Cont'd on page 28

The Pinwriter P30, the first sub £400 wide carriage printer from NEC.



Hardware Highlight

Cont'd from page 27

The bridging printer between a laser and dot matrix is the ink jet. Ink jets print by heating or electrifying small quantities of ink stored in a nozzle-well. The resulting pressure caused by either method forces the ink out of the nozzle and on to the paper. An individual character is formed by the combination of 50 ink cells within the nozzle, and the print position is determined by a process called drop on demand. The drop on demand process is also employed in the ink jet's bigger brother, the colour paint jet.

Silent

Ink jets, like lasers, are very quiet, making them ideal for a silent office operation. They are much cheaper than lasers (some models even cost less than 24-pin dot matrix printers) with much the same print quality, but they are not as quick as a laser printer. Operation costs are low, making the ink jet suitable for just about any office printing requirement, including PostScript and other DTP output as long as the computer using the printer can support the software needed.

Because the ink jet is so versatile, it has been tipped as the technology to watch in the 1990s. By 1992, the ink jet's total printer market share will be around 15 per cent, double the 1989 level. Most of the sales will come at the expense of 24-pin printers and low end laser printers.

The large amount of competition within the different types of printers and between the different manufacturers has made the current printer market a buyer's market. The main thing to remember, though, is to buy according to your office's needs. Even though you can get a great deal on a laser printer, a cheaper ink jet or even dot matrix might be better suited, and in the long run save money.

Stan and Don busy printing

Business Computing 90 saw the launch of three new printers from Tandon. The three dot matrix printers range in price from £595 to £1800.

The single font Tandon Matrix-Printer-9L is a 9-wire dot matrix bi-directional printer that offers draft quality printing at up to 220 characters/s at 10 characters/in with an option for colour printing. The second new machine is the MatrixPrinter-24L at £795. It is a letter quality 24-wire pin dot matrix printer with various font options. The 24L also offers a changeable four colour ribbon

cartridge.

The third printer launched is the heavy duty MatrixPrinter-24XL, designed for high volume use. The printer is capable of print speeds of up to 486 characters/s at 12 characters/in in draft mode and 135 characters/s (10 characters/in) for letter quality output. The printer sells for £1850, and is useful, the company says, for high load environments such as accounts departments. For further information please circle:

Interact No. 21

Panasonic laser

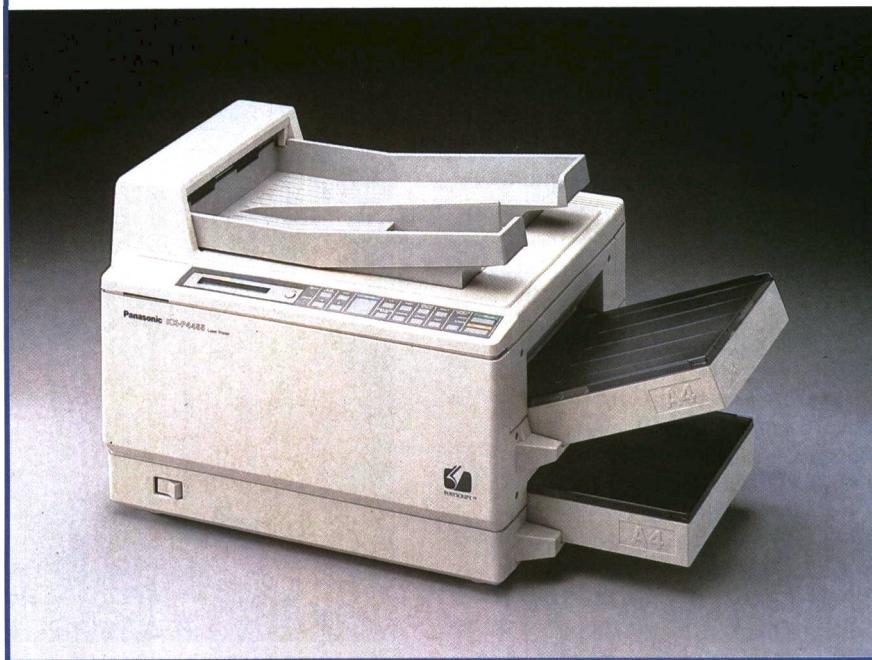
Panasonic's latest laser printer, the KX-P4455, is a true (rather than cloned) Adobe PostScript model. The new printer offers an 11 pages/min performance, 300 X 300 dots/in resolution, a range of interfaces and 2 to 4 Mbyte of RAM. At a retail price of £2695, Panasonic expects the KX-P4455 will be very competitive.

The new PostScript printer is based around the KX-P4455 engine and has twin, 250-sheet A4 paper trays, designed to handle up to 20,000 pages/month. It is fully Adobe

PostScript Version 51.4 compatible and emulations include HP LaserJet series II and Diablo 630. The KX-P4455 offers four interfaces, RS-232C, RS-422A, Centronics Parallel and Appletalk. The 39 Adobe fonts available include all 35 Apple laserwriter and IBM resident Adobe fonts together with 26 emulation fonts. A font card is available for HP LaserJet II emulation.

For further information please circle:

Interact No. 22



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FLOPPY CONTROLLER: Floppy/HD drive controller

VIDEO CARD: Mono CGA VGA SVGA

MONITOR: Amber Paper White (VGA) VGA (colour)

HARD DISK & CONTROLLER: Capacity _____ Mb Hardboard _____ Mb

SERIAL & PARALLEL (ie Communication & printer port)

RAM: 512K, 1mb, 2mb, etc.

CASES: Desktop, Baby Tower or Full Tower System

POWER SUPPLY: 150 watt or 200 watt

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Interact No. 17

Hardware@Highlight

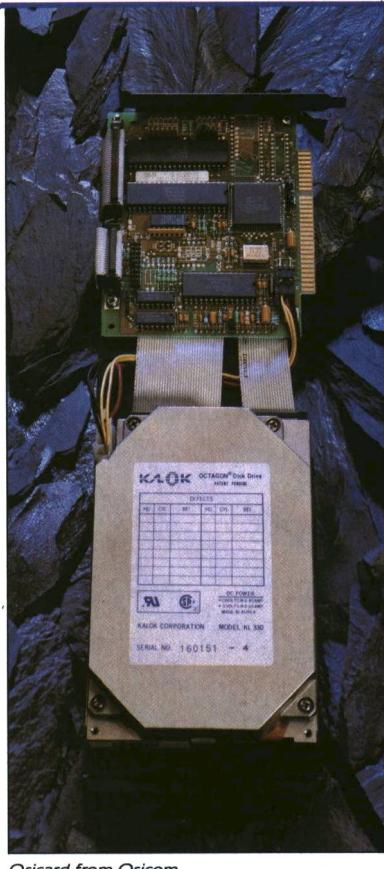
Osicom's Osicard

The Osicard range of internally fitting hardcards has been released by the microcomputer systems manufacturer, Osicom. The Osicard range of single slot storage devices provides what the company describes as economical, easily-installed and out-of-sight storage upgrade or expansion. Osicard is available for all IBM and compatible computers as well as IBM PS/2 Model 30 and 30-286 and compatibles.

The new hardcard is a fully configured hard disk storage device mounted on a full size PC/XT bus card which incorporates the industry standard ST506/ST412 interface. The three model Osicard family provides a range of popular sizes - 20, 30, and 40 Mbyte - to suit the users' applications and budgets.

For further information please circle:

Interact No. 4



Osicard from Osicom

NEC daredevils break barrier

NEC was the first company to break the sub-400 price barrier for a narrow carriage 24-pin printer. Now their Pinwriter P30 dot matrix printer is the first wide carriage 24-pin printer available under £400.

Although the Pinwriter P30 is aimed at the low-end market, the company says it offers speed and quality comparable to most mid to high end printers. It performs at speeds of up to 216 characters/s in draft quality mode and 72 characters/s in letter quality mode. The printer includes 10 resident fonts as standard with 19 national character sets. Also standard is a parallel interface, and an RS-232C serial interface is optional.

The P30 features high resolution graphics and an 8 kbyte memory buffer expandable to 16 kbyte. Paper handling facilities include built-in push tractors, friction feed, fixed bail rollers which prevent slipping and an optional cut sheet feeder. For further information please circle:

Interact No. 5

Panasonic portable

Panasonic has rounded out their portable PC range with the addition of two new models, the CF-170 and the CF-270. Both models include a backlit supertwist VGA or CGA compatible LCD screen, full function 85-key keyboard, 3.5in floppy drive and 20 Mbyte hard drive.

The CF-170 uses a CMOS V20 processor running at 10MHz and has 640 kbyte of RAM expandable to 1.6 Mbyte. The CF-170 weighs 2.8 kg. The CF-270 offers 80C286 processing at 16/8 MHz with the facility for a 80C287 maths coprocessor. The CF-270's standard 1 Mbyte of RAM is expandable with 1 Mbyte LIM EMS RAM cards to 5 Mbyte, and the machine weighs 3.1 kg. Both models incorporate expansion slots for internal modems and additional RAM. Parallel and RS-232C serial ports are standard and the CF-270 includes facilities for external monitor and keyboard.



Panasonic CF-170 and CF-270 Notebook PCs

For more hardware news see the News menu on the PC Interactive Disks

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BASIC Tutorial

XMAS BASICS

Steven Hanley resumes his tutorial course in programming in BASIC. This month he introduces and explains the different ways in which data can be input and printed, and writes a sample program for you to experiment with. Last month the concept of the variable was introduced, and the command PRINT was used to display them.

The PRINT command is not, however, limited to displaying only variables or simple expressions; it can also output text. In BASIC any text must appear between quotes – this is necessary to differentiate the text from the program. Thus to PRINT some text you would type;

```
10 PRINT "Merry Christmas!"
```

When RUN, this program would produce the greeting on the screen. Just to add a bit more jargon to the overflowing dictionary of computing terms all bits of text in a BASIC program are known as STRINGS. This is presumably short for "a string of characters".

The PRINT command is more flexible still, and can be used to output multiple occurrences of variables or strings in almost any way the user wishes. There are two ways to tell PRINT where to place the next variable or string in the list following the PRINT command. When the semi-colon is used, it forces output to follow directly;

```
10 day = 6
```

```
20 PRINT "On the";day;"th of  
Christmas,
```

"When this program is run, the variable name "day" will be printed as its value, in this case 6½". The other method for spacing is to use a comma. When PRINT encounters a comma it moves along to the next TAB position on the screen and then outputs the specified variable or string. TAB positions, which occur at regular intervals across the screen, are used to create TABLEs.

```
10 day = 25
```

```
20 month = 12
```

```
30 PRINT "Occasion", "Day",  
"Month"
```

```
40 PRINT "____","-", "___"
```

```
50 PRINT  
"Christmas",day,month
```

When this is run it should PRINT a small (and useless) table. The PRINT command is even more versatile than this, but don't get too excited – that comes in a later article.

PRINT is used to output a line or number, but what is needed now is a way to input them. Surprisingly, this command is known as INPUT. Like PRINT you can ask INPUT to get any number of variables from the keyboard. Try this;

```
10 PRINT "Temperature in  
Celsius";  
20 INPUT Celsius  
30 fahr=Celsius*9/5+32  
40 PRINT "Celsius",  
"Fahrenheit"  
50 PRINT "____","____"  
60 PRINT Celsius,fahr
```

One of the points to notice about this program is the semi-colon after the PRINT command in line 10. Usually when a line is PRINTed BASIC follows the line with a carriage-return; but by placing a semi-colon at the end of a line, BASIC does not do this and the next output to the screen comes directly after whatever was PRINTed last. The second thing to notice is that when INPUT is used in the way above it prints a question mark.

Actually lines 10 and 20 could have been written in one line as the INPUT command allows you to specify a prompt. Thus 10 and 20 could also look like this;

```
10 INPUT "What is the Temp  
in Celsius";Celsius
```

If you re-RUN the program above remember to remove line 20, or you will be forced to INPUT two numbers. To suppress the question mark prompt you would replace the semi-colon with a comma. Multiple variables can be requested by separating the list of requested variables with commas. The user has to type each value separated by a comma, if they enter too many or too few variables they will be requested to "?Redo from start". This demonstrates multiple variables.

```
10 PRINT "Santa Sleigh  
Overhead Evaluation"  
20 INPUT "How many  
Reindeers";reindeers  
30 INPUT "weight of sleigh  
(tonnes)";weight  
40 INPUT "cost per unit of  
reindeer fodder"; cost  
50 INPUT "No. Carrots per  
reindeer, Price per  
carrot";carrot,crtprc  
60 reincost=23.5  
70 VAT = 15  
80 fodcost =  
weight/reindeers*reincost*  
fodcost  
90 totcost=reindeers*  
(fodcost+carrot*crtprc)  
100 PRINT "Cost=";totcost;  
Cost+VAT = ";totcost+  
(totcost*15/100)
```

Where reincost is the well known "amount of food per tonne pulled a reindeer needs" constant.

As an exercise, try to alter the above program so that the cost of fodder is affected by distance travelled as well as the weight of the sleigh.

When entering example programs only use the return key at the character

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News

Bits Per Second has developed two new products for the current flavour of the month. Graphics Server is the first graphics server for Windows 3.0 and Chartbuilder is a chart making utility product for Superbase 2 and 4, running under Windows. PCI spoke with Graeme Knott about the new products and BPS' future direction.



Dowty has introduced 19.2 kbytes modem. The Quattro 96 is the latest in Dowty's recent modem releases, and also one of the most advanced. Read more about it on Disk.



Other new releases covered on the PCI News Disks include the new range of Arche computers unveiled at Business Computing, Taxan's new flatbed desktop image scanner, and Persona Products' p.LAN range of Lan interface solutions.

Features

What's a WAN, and where can I get some? PCI unravels wide area networks and shows how easy it is to design your own.



Data has a base on the PC. Multi-user networked databases on PCs can now handle more data and more users. PCI highlights some points to keep in mind when using databases on a PC.



The Phoenix computer. Raise your old computer from the dustbin of history by using its in-built capability for expansion.

Demos

RapidFile from Ashton-Tate is the company's latest database management package. Ashton-Tate says RapidFile is designed to be the best,



Quattro 96 Modem

easiest to use file manager for specific personal productivity applications. RapidFile directly reads Lotus 1-2-3 and dBase file. It also supports networks and printers.



The demo of Portex Professional, Showerings Publishing's personal information system, includes a diary, address book and word processor. Portex is the basis of a in-the-pocket, integrated information system that can adapt and personalise to the user's particular needs. Showerings says Portex eliminates the need for separate address books, note pads and schedulers that many business people carry. Information is stored on a computer so users can update anytime.



Digitas International present the Personal Tax Planner and Home Accounts. Personal Tax Planner is a UK income tax computation program which will calculate income tax liability for a given tax year and provide facts about the user's tax position. PTP can also calculate the effect of an increase or change in allowances has on tax liability. Home Accounts allows the user to set up a budget for items of household expenditure and compare actual

expenditure with the budget.

Shareware

DUP is a duplication utility featuring a simple and informative user interface and a number of unique and valuable features.

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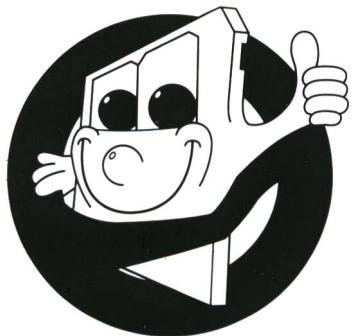
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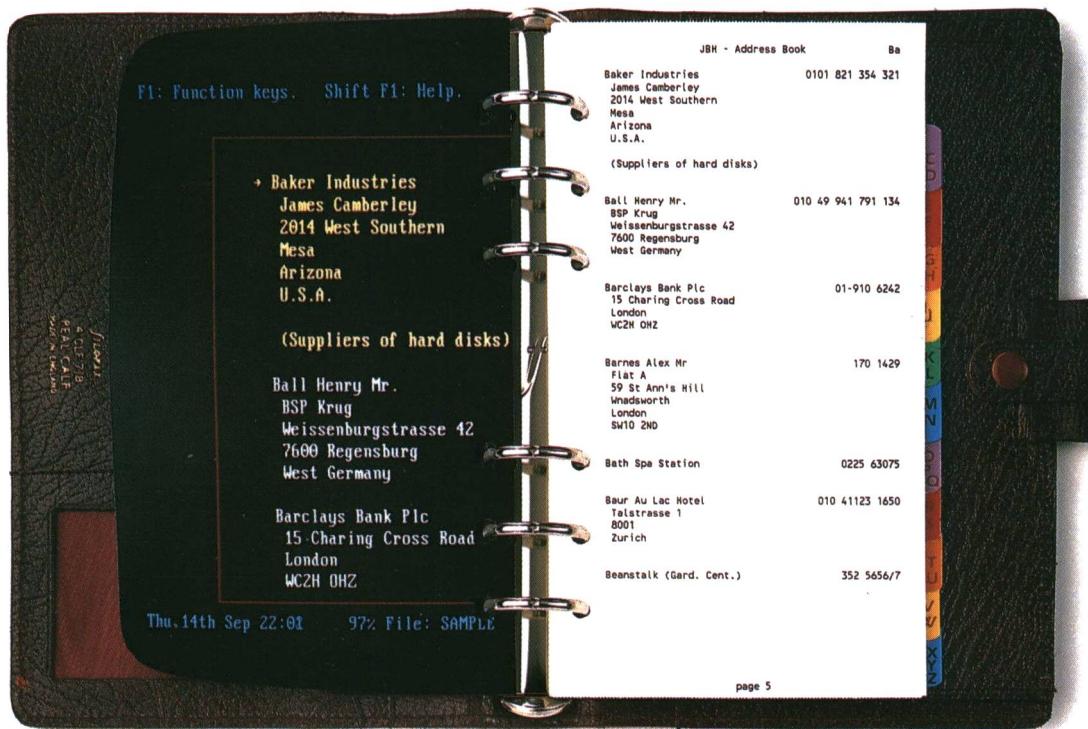


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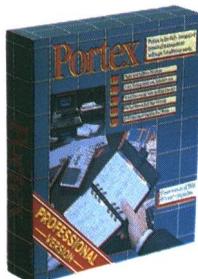
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